UNITED STATES DISTRICT COURT

WESTERN DISTRICT OF WISCONSIN

GREGORY BOYER, as Administrator of the Estate of Christine Boyer, and on his own behalf,

Plaintiff,

vs. Lead Case No. 20-CV-1123

ADVANCED CORRECTIONAL HEALTHCARE, INC., et al.,

Defendants.

GREGORY BOYER, as Administrator of the Estate of Christine Boyer, and on his own behalf,

Plaintiff,

vs. Case No. 22-CV-723

USA MEDICAL & PSYCHOLOGICAL STAFFING, et al.,

Defendants.

ZOOM Deposition of BRUCE CHARASH, M.D.

Tuesday, January 28th, 2025

10:04 a.m. - 1:05 p.m.

appearing remotely from New York City, New York

Job No. 180758

Stenographically Reported by Rosanne E. Pezze, RPR/CRR

Certified Realtime Reporter

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Remote ZOOM Deposition of BRUCE CHARASH, M.D., a witness in the above-entitled action, taken at the instance of the Defendants, pursuant to the Federal Rules of Civil Procedure, pursuant to Notice, before Rosanne E. Pezze, RPR/CRR, Certified Realtime Reporter and Notary Public, State of Wisconsin, appearing remotely from New York City, New York, on the 28th day of January, 2025, commencing at 10:04 a.m. and concluding at 1:05 p.m.

A P P E A R A N C E S:

LOEVY & LOEVY, by
Ms. Maria Makar
311 North Aberdeen Street, 3rd Floor
Chicago, Illinois 60607
312-243-5900
makar@loevy.com
Appeared via Zoom on behalf of Plaintiffs.

LEIB KNOTT GAYNOR, LLC, by
Mr. Douglas Knott
219 North Milwaukee Avenue, Suite 710
Milwaukee, Wisconsin 53202
414-276-2108
dknott@lkglaw.net
Appeared via Zoom on behalf of Defendants ACH, Lisa Pisney and Amber Fennigkoh.

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A P P E A R A N C E S (continued):

GERAGHTY, O'LOUGHLIN & KENNEY, P.A., by
Mr. John B. Casserly
30 East 7th Street, Suite 2750
St. Paul, Minnesota 55101-1812
651-291-1177
jcasserly@goklawfirm.com
Appeared via Zoom on behalf of Defendants USA Medical & Psychological Staffing, Jillian Bresnahan, Norman Johnson, Travis Schamber and Wesley Harmston.

HANSEN REYNOLDS, LLC, by
Mr. Andrew A. Jones
301 North Broadway Street, Suite 400
Milwaukee, Wisconsin 53202
414-455-7676

Appeared via Zoom on behalf of Defendants Monroe County Sheriff's Office, Stan Hendrickson, Danielle Warren and Shasta Parker.

ALSO PRESENT: Ms. Alecia Richards, Intern

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I N D E X

E X H I B I T S

(Original exhibits attached to Original transcript; copies of exhibits are attached.)

R E Q U E S T S

(None.)

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TRANSCRIPT OF PROCEEDINGS

BRUCE CHARASH, M.D., having been first duly sworn remotely on oath, was examined and testified as follows:

E X A M I N A T I O N

BY MR. KNOTT:

Q Sir, could you please state your full name for the record.

A Bruce Charash, C-H-A-R-A-S-H.

Q And you are a medical doctor?

A Yes.

Q And what is your area of specialty?

A Cardiology and internal medicine.

Q And are you at your home today, Dr. Charash?

A Yes. Pardon me. Yes.

Q You've given depositions before?

A Yes.

Q You understand that I'm trying to find out what opinions you may have to offer in this matter if it were to go to trial?

A Yes.

Q And that I am questioning you based on a report that we were given dated February 2, 2024.

Is that a report that you prepared?

A Yes, it is.

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Q And are those your final opinions in the matter?
A Yes, other than perhaps addressing any new defense opinions if they're revealed that I haven't -- that have not yet been disclosed. But in terms of my opinion in the case, yes, it's all there.
Q Okay. Let's go back.
Your curriculum vitae discloses an address on 63rd Street. Is that your home or professional address?
A Both.
Q So your home is your professional address?
A Yes.
Q You've given depositions in the past? I think I asked you that, right?
A Correct.
Q And approximately how many depositions have you given, Doctor?
A Well, I've been involved in these types of litigations for 38 years, since 1987, and I've probably been deposed 360-plus times in those same years.
Q 360. Do you have some kind of count, or is that an estimate based on a certain number per year?
A Well, it's an estimate based on -- it's an estimate I've kept over the years, not a count.

I'd say I average maybe 10 a year to 11 a year, so maybe it's 370. I don't know the exact number. You know, in the first few years I did very few testimony.
Q Did you testify in the past that you've given more than 900 depositions?
A No. I have testified multiple times that I have, A, reviewed around 1,000 to 1,100 cases in 38 years, or back then 37 years.
Then I've also testified that I have appeared in court on average seven times a year in trial for 38 years, and have appeared in deposition around 10 to 11 times a year.
Then I've testified, and people have asked me if I add my depositions and trials, does that reach a number like 6- or 700, and I said yeah, if you add up all the trials and depositions, even though there's overlap. But I've never done 900 depositions and I've never testified to that. If so, it's transcribed wrong, because it's clear I'm very consistent in my replies.
Q Okay. So have you ruled -- reviewed anything since the time of your report from February of 2024?

A With regard to Christine Boyer and the case involving her?
Q Of course.
A Yes, I reviewed the defense reports, multiple defense reports.
Q And can you tell me the names of the expert reports that you've reviewed so that we know. There's --
A I'd have to look it up. One was John Wolff, Dr. Wolff. I don't remember his first name. Sorry. Dr. Wolff. I reviewed the report of Kimberly Pearson, who's a nurse, I believe. Dr. Murray Young, a New York doctor. Matthew Wolff is his name. Sorry. Matthew Wolff. I think there was another report, but I'm not sure. Let me look. I'm going to have to look it up, but those for sure.
Q Okay. Do you have Dr. Wolff's report in front of you, sir?
A I do.
Q And you have Ms. Pearson and Dr. Young's reports in front of you as well?
A I do not.
Q Did you make any notes or do any highlighting of Dr. Wolff's report?

A No.
Q You met with Ms. Makar before the deposition?
A Yesterday we had a video chat.
Q Can you tell me approximately how long that chat was?
A Less than an hour, but probably close to an hour.
Q Were there any other people on the chat?
A No.
Q Did you ask to see anything during the chat?
A No.
Q Were you shown anything during the chat?
A No.
Q You reviewed the duces tecum request for documents that was sent to you for the deposition today?
A Yes.
Q And one of the things that it asked for is whether you have any notes from your work on the matter.
Do you have any notes?
A No, I don't. My report are my notes.
Q You have no notes other than the final report?
A Correct.
Q Dr. Charash, when you were preparing your report, did you look up or reference any literature in order to confirm your opinions?
A No.

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Q And do you review a case, when you review cases, do you review them via PDF, or do you review them on paper?
A PDF.
Q And does your process include selecting documents and putting them in a separate file if they're particularly important or highlighting them?
A No.
Q Do you keep a separate note where you would write down Bates numbers that are particularly important?
A No.
Q So I'm going to mark your curriculum vitae as Exhibit 117. I'll mark, when we take a break, I'll mark your -- the invoices that we were provided as 118, your deposition list 119, your trial testimony 120.
So we were provided a list of your testimony, two lists of your testimony in response to the duces tecum or in your disclosure.
Do you maintain a list of the cases in which you've testified?
A I just keep a list of the last four years.
Q And do you have the list that was provided in this case?

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A Yes. I don't have it printed, but it's in my -- I can access it.
Q Let me see if I can access it.
A What happened?
Q So I'm --
A Oh, okay. Good.
Q -- I'm sharing with you what's been marked as Exhibit 119. It's a deposition list.
Was this the list that you referenced of your deposition testimony?
A Yes.
Q And it doesn't include any testimony in 2021. Did you testify at all in 2021?
A Virtually no. It was COVID. I have one deposition in January and that was it.
Q Okay. So I counted, and you testified 17 times in 2022. You didn't testify at all in 2021 --
A Correct.
Q -- except for that one case during COVID?
A Yeah, I don't think there was any more than that. I'm not sure.
Q Have you ever reviewed a case involving plaintiffs or defendants in the state of Wisconsin?
A Not that I'm aware of, no.
Q Have you ever been retained by the Loevy firm, if you know?
A Other than this matter, I don't remember. There's maybe one other, but I'm not sure, actually.
Q What is -- what clicks in your mind that you think you may have been retained in one other?
A I'm not sure. For me, I have a very powerful passive memory in the sense that, for example, you could read me these case names; I won't remember anything about them, even if it was a month ago. But if I'm given a small trigger of information, I'll remember every detail of the case.
So the name, the Loevy firm's name is familiar to me, and I'm not sure if it's just because of this case I've been involved with, or one other. But if I was given a small piece of information, I would actively remember. So I don't know.
Q Well, your list includes a single word under the case name. Is that the plaintiff or the defendant, or do you know?
A Always the plaintiff. It's always by plaintiff, because I figure that's the easiest way to track it down.
Q Have you ever testified in federal court, sir?
A A long, long time ago.

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Q How long?
A Five, ten years, I think. I'm not sure. I don't really remember exactly when.
Q So we can --
A I think -- this is probably my only case with the Loevy firm, but I'm not 100 percent sure.
Q So we can assume that any testimony on this list is in state court; is that correct?
MS. MAKAR: Objection. Form.
A These would not be federal cases.
BY MR. KNOTT:
Q And are the -- there's a single word for the most part under the column "Lawyer." Is that the individual lawyer that you worked with on the case, or is it a firm?
A It's the lead name of the letterhead of the firm.
Q It looks like you've worked with two lawyers in Illinois, Taxman and Loggins. There's one more. Meyer Kiss, I guess.
Do you know what -- do you have a recollection of any matters in which you testified for the Loggins firm or Ms. Loggins or Mr. Loggins?
A I won't remember any details. I need something to trigger that memory.

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Q As you look at this list, do you think that any of these cases involved congestive heart failure? Do you have any --

A If you're saying generically, congestive heart failure may have been a role in a number of cases. I don't know if they did. But, you know, I wouldn't characterize this case as simple heart failure. But that said, I may have. But I don't think I've ever had a case, at least in recent memory, that's similar to this case. But I don't know.

Are we waiting on something? I'm confused.

Q Yeah, I said bear with me, please. I'm trying to --

A Oh, sorry. I couldn't hear that. Remember, with this cold, if I -- I'm not 100 percent sure I didn't miss anything.

Q And I'm putting on the screen now Exhibit 120, which is a list of trial testimony that we were provided.

Do you recognize that?

A I do.

Q And these are the matters in which you went to court and actually testified in a case?

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A Yes.

Q And it looks like you testified in the last four years in a single matter in the state of Illinois; is that correct?

A Yes.

Q Do you remember where that was?

A No.

Q And did you go to court at any time before October of 2021 --

A No.

Q -- in the calendar year 2021?

A No. That was -- again, I don't think so. That's at the tail end of COVID, but I'm not sure.

Q I read in previous testimony that you believed that you had testified in matters pending in about 40 states. Is that accurate?

A No. I reviewed cases from lawyers in approximately 40 states. I've only testified in maybe 15 of them, between depo and trial, and probably only eight or nine in trial. Most of the cases are on the northeast, from the east coast. East coast. But I've not testified in most of those states.

Q So it's accurate to say that you've -- you reviewed matters from lawyers based in approximately 40 states; is that correct?

A Yes.

Q And, Doctor, do you continue to see patients at this time?

A Yes.

Q And tell me about your current professional responsibilities.

A Well, I see patients. I'm the cardiologist for half my practice. For 25 percent they came to me for cardiology but then asked if I would also be their primary care doctor in addition to cardiology. And then another 25 percent came to me just for primary care, but over time, at least half of them have developed some form of cardiac issue or concern.

I'm a noninvasive cardiologist. I do echocardiograms. I used to do stress testing in my office. No more. But I do echocardiograms and physical exams. I'm an attending at Lenox Hill Hospital in New York. And that's my practice. 9:00 to 5:00 office hours. About 85 percent of my time is in the office and about 15, 10 to 15 percent of the time is in the hospital.

Q And do you have any employees in your practice other than yourself?

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A No, not anymore.

Q And you have privileges at Lenox Hill?

A Yes.

Q You're not listed on the Lenox Hill website.

A Correct.

Q Do you have an understanding why not?

A It's voluntary, and I'm not looking to expand my practice. That's where people can find doctors. It's only there to give people access to practices, their information, match the insurance. But I'm not open to new patients unless it's a case by case through referral, but I'm not letting my name be out in the public anymore.

Q Are most of the physicians at Lenox Hill employed by a single entity?

A No. The overwhelming majority are private practice, and they're affiliated at Lenox Hill. But there is a -- they have hospitalists now. Things have changed. So they have hospitalists in the hospital. But most cardiologists, most primary care doctors don't get -- don't get paid by the hospital or any medical school.

Q And can you tell me how many patients you see a week on average?

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A A week on average. Between 40 and 60.
Q And do you -- I know that it's a big commitment to be on the list of providers for health insurers. Are you authorized to provide services and bill to any health insurance companies?
MS. MAKAR: Objection. Form.
A No, I am not.
BY MR. KNOTT:
Q So all of your patients are private pay?
A Well, half are. Half my patients pay me an annual fee based on how much they're going to need me. People call it concierge practice. But the other half of my patients are military, Medicare, other people who I don't charge at all. The wealthier half of my practice pays for the other half of my practice, and everyone gets my cell phone number and everyone can contact me when they need to. And I do house calls for everyone.
Q I'm sorry that I'm wading into something I don't understand very well, but do you bill Medicare?
A No. My patients pay a flat fee to have me look after them.
Q Okay. So you're saying that half your patients, and I know it's approximate, are private pay and that their compensation to you covers the rest of

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the patients that you provide services to?
A Correct.
Q I want to go back to your testimonial history just for a second here.
Doctor, among the cases in which you testified at trial, do you know the approximate percentage where you were retained by the plaintiff?
A I do. Of cases in which I've been retained, 85 percent have been for plaintiff cases and 15 percent for defense. But when it comes to testifying, about 95 to 96 percent are for plaintiff and 4 to 5 percent are for defense.
Q Do you have any idea why that might be, Doctor, that that's sort of tilted that way?
MS. MAKAR: Objection. Form.
A I absolutely do have an idea why. 15 percent of my cases come from defense firms. Now, I reject a lot of plaintiff's cases just on a phone call saying -- if someone said a patient had a stroke during a catheterization, and I tell them that's a normal -- a well-known side effect, I won't review the case. If I don't think there's anything there, I'm not going to waste anyone's time or money.

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But defense lawyers have no choice but to analyze their case, whether they can defend a doctor legitimately or not.
So about 15 percent of the defense cases that I review, I find that I cannot easily defend the doctor, but the defense lawyers still want me to review it and have me at least kind of mitigate the damages or whatever can be done. Those cases I'm never going to testify in. So 15 percent of my cases are defense cases. About -- only 7 percent of them absolute -- of all my cases, I'm willing to testify on the defense. And of those, about half resolve before I'm even asked to testify, whereas, very few plaintiff cases resolve that way. That's why it's a much smaller percentage of testifying in defense cases.
BY MR. KNOTT:
Q Doctor, I put your trial list back up on the screen, the list of your trial testimony in the last four years.
And I'll scroll through it so you can see it all. But do any of those stand out as a case in which you testified for a defendant at trial?
A Actually, the first one on the list, Rakhit, I

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was -- was a doctor I was defending. But the rest I'm unsure. It just stood out because it was a lawyer named Margolis and I know he was defending them. But I wouldn't be able to tell you which other ones were defense.
Q Do you know Margolis' first name?
A Not anymore. I could probably dig it out, but I don't remember it.
Q Bear with me. And I put up on the screen once again your deposition testimony list, which is Exhibit 119.
Looking at that, do you recognize any of those cases as being a case in which you testified on behalf of the defendant?
A There's too many. I don't know. I mean, I would have to try and dig out -- I don't remember, so I don't know.
Q Okay. I'm scrolling through them, and your answer is you don't know?
A Correct.
MS. MAKAR: Objection.
A I just don't know.
BY MR. KNOTT:
Q Fair enough.
Doctor, do you know if you've ever

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testified in a matter involving a detainee in a jail or prison?

A I have. I have a number of them in New York State. I've probably testified in deposition in about three or four cases, but I don't think I've ever been called to court, at least not as of now, except for this case.

Q And in the three or four cases that you were asked to review, at least, were all of those in the state of New York?

A Yes, I believe so.

Q And do you know if those involved claims that civil rights were infringed upon?

A I believe some of them at least were, yes.

Q And were you instructed or do you feel knowledgeable of the Constitutional standard by which a healthcare provider is judged in a civil rights case?

A No. I had nothing to do with that aspect of the case, determining civil rights violations. I only talked about the medicine.

Q And my understanding is that you'll be called to testify in this matter as to issues of causation only; is that fair?

MS. MAKAR: Objection. Form.

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A Yes. My opinions in my report were all causation opinions, and I have no intention of testifying about standard of care.

BY MR. KNOTT:

Q And I appreciate that answer, and I appreciate that you understand the difference between standard of care and causation, but let me just ask these questions briefly and we'll get through this.

You've never practiced in a correctional facility, correct?

A Correct.

Q You've never held a contract to provide healthcare services at a correctional facility, correct?

A Correct.

Q You're not trained as a nurse or a nurse practitioner, correct?

A Correct.

Q And is it fair to say you don't have any opinions on the care provided to -- strike that.

You don't have any opinions on the adequacy of county or Advanced Correctional Healthcare policies and procedures, correct?

MS. MAKAR: Objection to form.

A I will not be commenting on those things.

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BY MR. KNOTT:

Q And, Doctor, you may have noted from your review of Dr. Young's report that there are several other inmates whose care has been put at issue in this case.

Is it fair to say that you don't have any opinion about the care provided by Advanced Correctional or Monroe County Jail to detainees other than Christine Boyer?

A Correct.

MS. MAKAR: Objection. Form.

A Yes, I have no opinions.

BY MR. KNOTT:

Q Doctor, do you know whether your current earnings in medical-legal cases exceed those earnings in your professional practice?

A They do not. My earnings medical-legally have run averaging 15 to 20 percent. There were a handful of years in the early 2000s where it was up to 25 percent, but it's averaging around 20 percent of my income.

Q Thank you.

Doctor, I'm trying to find a document and I keep making the same mistake every time I do this, so I apologize.

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A By the way, I'm sorry, Mr. Knott. This wasn't clear when we started this deposition, but who is your client in this case?

Q I apologize. I should have introduced myself. Yeah, I represent Nurse Practitioner Pisney, Nurse Fennigkoh, and Advanced Correctional Healthcare, which is a private correctional healthcare provider.

A Okay. Thank you. Just wasn't sure.

Q Okay. You're welcome.

And, sir, I put up on the screen your curriculum vitae, which was marked as Exhibit 117. Any significant changes or updates to this in the last couple of years? I guess you've been involved in the case since 2022. Maybe it could be that old.

A Can you just scroll a little further down? Keep going. No, this is updated. This is -- it's current. Nothing's changed in the last couple of years.

Q Okay. You currently don't have any academic appointments, correct?

A That I'm aware of. That's the weird part. Lenox Hill joined a giant network called Northwell, which is now the biggest medical entity in New

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York State, and they became affiliated with a new medical school on Long Island named Hofstra. Pretty much anyone who's a voluntary doctor at a hospital is given the minimum credential of clinical assistant professor of medicine.

But I've never heard back from them, and it's been kind of weird, so I'm trying to find out. But I can't name -- I can't guarantee I have it. I teach medical students regularly from Hofstra, and I give lectures to all the doctors in training at Lenox Hill, but I'm not 100 percent sure if my title is formalized. I don't know.

Q You are not assigned to represent any residents at this time. Fair?

A No private doctor is assigned residents, no.

Q In what context do you supervise residents, sir?

A There are a few. The first is, every time I go to the hospital and I see one of my patients, I pull together the clinical team which involves medical students, interns, residents and sometimes cardiology fellows. And I not only go over the instructions for my patient, but I actually go over the medicine and teach them things on physical exam or on clinical and academic interest

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of the case.

Secondly, about three times a year I give big lectures to everyone on staff, all the doctors in training from students to fellows, on acute coronary issues like chest pain in the ER. I used to run the cardiac arrest team, so I give a lecture about new advances in cardiac arrest. And then a couple of -- several times a year I will be called spontaneously by the residents the night before to come in the next day at 6:00 to have a conference with the residents who are on call the night before, called resident report, where they bring up what they think is the more challenging admissions they want to discuss.

And finally, one month out of every two years, because there's so many of us, I'm the cardiology consult attending for the month where I go over the service patients with the clinical care team doctors in training. So those are the different venues by which I teach.

Q Okay. You have no affiliation with this Northwell entity, correct?

A With what?

Q You have no affiliation with the Northwell entity?

A No, no. I'm affiliated with Northwell because I'm

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at Lenox Hill. It's whether I have an affiliation with Hofstra Medical School. The academic appointment would be Hofstra. Lenox Hill is Northwell.

Q Okay. Got it. So you're on some sort of coverage schedule at Lenox Hill; is that fair?

A No. I don't know what you mean by that.

Q Well --

A I don't --

Q -- you don't cover -- then let me try to clarify.

You do not see patients at Lenox Hill other than your own, the patients that you admit; is that correct?

A Yes, other than if I'm the consult attending, which comes once every couple of years. But yes, I only see my patients.

Q Okay. And that was my question. Something comes up once every couple of years. What is that?

A It's the rotation for who's the cardiology attending of the month for what's called the cardiology consult service for patients who don't have private doctors that rely on the consult service.

Q So once every couple of years you provide coverage on call for Lenox Hill?

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A No, it's -- the consult service is for patients who don't have private doctors, and there's a fellow and residents covering them, on call covering them at night.

Q How is what you're saying different than what I'm saying? I don't understand.

A Well, it's not like I'm on call in general for the hospital. I'm just seeing what we call the consult service. I don't know how else to clarify that. I'm really sorry. I'm not getting where we're not communicating. I apologize.

Q Yeah. Well, I wouldn't expect that any physician would be generally on call for all issues. But -- so you are on a call rotation for the cardiology services at Lenox Hill; is that fair?

MS. MAKAR: Objection. Form.

A I wouldn't phrase it that way. Because there are a lot of cardiologists, I get told that on a given month I will be the consult attending. Usually every year, but there are too many cardiologists, so we all rotate. So I will say -- you know, April 2026 I'll be the consult attending.

I don't know what -- what you're saying doesn't seem to register the same to me, but I think I'm being very clear about what that

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is.

BY MR. KNOTT:

Q And when you're on that service, do you see patients in the ER?

A Sometimes, but sometimes -- I see my patients in the ER. The consult service usually gets called after the emergency room, but sometimes they're called through the emergency room. It's not very common, but it can happen.

Q And when was the last time you provided a lecture in an academic setting?

A Academic setting. Well, again, these are lecture hall, you know, resident lectures. I think it was last June.

Q So is that June of 2024?

A Yes, June of 2024. I haven't given a lecture this year yet.

Q And do you prepare slides for your discussions?

A No, I actually don't. I like to use a whiteboard to keep them engaged, and then it's mostly didactics.

Q And in that context, what was your -- how did you get connected to provide that lecture?

A Well, for 20 years I was the chief of the cardiac care unit at Lenox Hill and I started giving those

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lectures when I was chief of the unit. I was chief -- well, less than 20 years, from 1991 to 2006.

Then when I went into private practice, they still had me come in and give talks to the residents about coronary management. I was also the director of the Chest Pain Center in the emergency room, and I was the chief of the Cardiac Arrest Team for the hospital. So I had areas of interest and I'd give talks.

Q Yeah, and I apologize, I'm trying to find my way through here.

But the people that you spoke to are residents; they are not medical students of Hofstra?

A No, they are. They include medical students at Hofstra that are rotating at Lenox Hill.

Q All right. So this Doc2Dock, is that still active?

A Yes, but I turned over day-to-day operations to a partner organization, because maintaining a warehouse in New York was becoming too expensive. But my infrastructure and the methodology still is running.

Q Does it have a website?

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A Yes.

Q What is it?

A Doc2Dock.com. Dot org, I mean.

Q So it's the -- the organization name that I've highlighted there on the screen, which is capital D-O-C, number 2, capital D-O-C-K --

A Dot org.

Q Dot org?

A Yes.

Q Your CV includes some publications and abstracts.

Are there any publications that you consider relevant to this matter?

A I haven't published in over 30 years, and none of them are relevant.

Q And you published a book called "Heart Myths." What was the -- what was your angle there, Doctor? What were the heart myths?

A That there are a lot of -- that when we digest publicly health advice, we're often given an overgeneralized view and sometimes gloss over data. For example, I considered it a myth that salt is bad for everyone. There are certain people with hypertension that will get worse if they avoid salt; that's 20 percent of them. Or that a leaky valve means something's leaking in

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your heart.

So some of it's a bunch of misunderstandings, but in the book I explain how the heart works and how pathology occurs, and I explore misconceptions people have.

Q You state in your report that you reviewed CCTV footage from December 23, 2019.

Have you reviewed that recently?

A I had reviewed it early when I got the case, but I have not relooked at it in a long time.

Q As you sit here today, is there any -- do you have any recollection of the video and anything that would be pertinent? Can you identify anything that would be pertinent from that video to your opinions?

A No. Just what's in my report, the timeline of events.

Q You describe in your report at Page 3 what you saw on the video as "what appeared to be a seizure."

Is there anything about the manner in which Ms. Boyer collapsed that tells you -- that gives you clinical information?

A No. Just that she had a seizure, which Dr. Wolff and I appear to agree that it was a seizure from oxygen deprivation to her brain from some sort of

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arrhythmia.

Q Do you agree that in that video footage that prior to the seizure she does not appear to be experiencing any distress or discomfort?

MS. MAKAR: Objection. Form. Foundation.

A Well, there's no way to know if she's in distress or discomfort. She was not showing outward indicators of duress, but that doesn't mean she wasn't in pain. Lots of people have pain and don't show it. So I wouldn't draw too much of a conclusion other than she was not in apparent acute distress. But it doesn't mean she wasn't in pain or in any form of -- it doesn't mean she was comfortable breathing; it just means she didn't look acutely distressed.

BY MR. KNOTT:

Q Have you accepted as true the correctional officer's testimony that she had a single report of chest pain around 7:30 p.m.?

A Well, first of all, if you look at the note, it's not a single episode. It says here that her chest pain has been on and off all day long, so that is no longer a single episode.

What we don't know is, which you

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have purported, when did it go away completely. If it was episodic, it means it reoccurs. So she could go for any period of time, in theory, and have no pain and then it could reoccur again. So she reported an episodic recurrent phenomenon that was occurring all day long. It was not one episode that went away. It was a recurrent episode. And we don't know, there was no specific history taken of her symptoms.

Q So it was recurrent prior to that report.

Do you accept the testimony that it then resolved around 8:00 p.m. and was not reported again that evening?

MS. MAKAR: Objection. Form.

A The sentence has to be broken down to whether anyone asked her or whether she volunteered it. There's three possibilities. If somebody asked her, are you having pain, she said no. And were they doing that throughout the night. Or did she report pain. Or if no one asked her, could she be having recurrent symptoms. But since she's already been evaluated, it's conceivable she doesn't continue to mention it.

All we know is that after 8:00-something, no one is documenting pain, but it

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doesn't exclude her from having pain. Just there's no evidence that she was in pain. So if she had episodic pain all day long, it could have just managed, but I think that we don't have any evidence.

But I don't want to get into standard of care here, because that's kind of getting close to that. I'm only giving you a causation opinion.

BY MR. KNOTT:

Q I understand that. And so, we agree there's no evidence that she reported pain after approximately 8:00 p.m.?

A There's no evidence that -- there's no documentation for having chest pain after 8:00 p.m. That's all we can say.

Q Doctor, I'm looking at your report at Page 2 under Factual Background. There is -- the first two paragraphs.

Is that what you believe to be the relevant past medical history?

A Yes. I mean, I didn't go into the details of her having recurrent abdominal pelvic surgeries, because those were all consequences of her cancer, and none of them are life-threatening injuries,

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just major quality of life issues for her. But yeah, these are the major issues.

Q I'm sorry. I didn't hear you there.

A These are the major issues. These are the major medical issues.

Q But I didn't hear your response, and you said something about quality of life?

A Oh. She had -- she was -- obviously had suffering of abdominal pain and had multiple procedures and surgeries on her abdomen and pelvis because of the cancer she experienced when she was young. But that was not a life-threatening issue; that's a quality of life issue.

Q Okay. And you disagree with her report that she had less than one year to live?

MS. MAKAR: Objection.

A Well, first of all, it sounds like she was intoxicated when she came in. But there's no -- I've looked at her records at Gundersen where she was cared for, and there was absolutely nothing going on that would limit her life to one year. There's nothing in there at all that discussed that.

But apparently from the report of when she was highly intoxicated, she obviously had

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a very dark turn when I read the police report about her taking a gun and wanting to -- putting -- whatever she was doing, she was in a very dark place.

But if you look at her medical records, there was nothing -- she didn't have advanced cancer. She didn't have any end-organ failure. She didn't have anything that would predictably weaken her life in the next year. That's out of thin air. There's no medical basis for that. But she was in a very dark place. It's more of a psychological assessment than it is medical.

BY MR. KNOTT:

Q Did you see that Ms. Boyer had any psychological diagnoses?

A Not that I'm aware of.

MS. MAKAR: Objection. Outside the scope.

BY MR. KNOTT:

Q Is it unusual in your practice that a patient would report that they have one year left to live without any basis in their medical condition?

MS. MAKAR: Objection. Form.

A I'm not -- I haven't -- I have not discussed this

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in my report. It has nothing to do with my opinions. She was drunk and dark. I know people who get very dark when they're drunk, and she was spewing things that were very dark, but they're not true. There was nothing about her life that limited her to a one-year life expectancy. It was out of thin air. It was a reflection of what alcohol did to her mind at that point in her darkness at that moment.

BY MR. KNOTT:

Q Is there a difference, Doctor, between difficulty breathing and shortness of breath?

A There could be. For most people they would relate to them as being the same thing. For some people difficulty breathing could be a mechanically difficult time breathing. So if somebody has rib pain and when they breathe in, they could say it's hard to breathe but they don't feel short of breath. But for the most part they're considered equivalent.

May I take a quick bathroom break? I'm sorry, this cold thing, I'm on these cold medicines and I need a quick break.

MR. KNOTT: Absolutely. It's not an endurance test.

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THE WITNESS: Fives minutes or less. Okay, thanks.

(Brief recess taken from 11:00 a.m. to 11:07 a.m.)

BY MR. KNOTT:

Q At any rate, Doctor, just if you need to cough, if you need to step out of the screen here, if you need anything, just let me know. I am going to start kind of turning through the pages of your report here, so I think we'll be moving along pretty quickly.

A Okay.

Q So Mrs. Boyer was provided clonidine.

Do you agree that the administration of clonidine was an appropriate intervention as far as it went?

A I'm not offering standard of care opinions. I'm only offering causation opinions. I have not weighed in on the appropriateness or the lack of appropriateness of giving her clonidine.

I'm only here to answer that she would have survived if she had been transferred to a hospital. I'm not giving opinions about the medication she received or the care she received. Other people are doing that.

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Q All right. Well, I don't think that's necessarily a basis for objection, but I respect your -- I respect your comment, Doctor, and I will -- I'll move on.

I -- well, at any rate, in your report, you cut and pasted a couple of sections from a document that was created by a correctional officer at the jail. That's Page 3 of your report. Are you there?

A Yes.

Q And, Doctor, can you just tell me, how would you characterize the vitals at 8:53, which is in that second segment?

A She had --

MS. MAKAR: Objection. Form.

A Well, her blood pressure was elevated.

BY MR. KNOTT:

Q Is there an objective scale of blood pressure to measure whether it's mildly elevated, moderately elevated, severely elevated?

A No, because it's contextual, meaning, to begin with, this is not a steady state blood pressure. It's one with a person coming in with, you know, being incarcerated, whatever her emotions are. But if you're having symptoms of blood pressure of

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142 over 92, it might have more significance than if you're not having symptoms and you have it measured casually in a doctor's office.

So it really isn't just a simple -- you don't just compare it to an absolute curve. It depends on the context. If somebody's having chest pain or shortness of breath, a blood pressure of 142 over 92 could have more significance than if someone is comfortable.

Q How would you characterize 142 over 92 if it were in a patient that was comfortable in your office?

A Mild to moderately elevated.

Q You agree, Doctor, that that standing alone is not indicative of a hypertensive emergency?

A Alone, of course it isn't.

Q Do you know if you were provided EKG strips?

A I was -- sorry. Can you please repeat that?

Q Do you know if you were provided EKG strips?

A Yeah, I believe I was. Well, I was -- I was given -- I don't remember what EKG strips. I'm sorry, I don't recall what EKG strips you're referring to. When she got admitted to the hospital, I saw those EKG strips.

Q And at the top of Page 4 you reference EKG strips.

A At Gundersen.

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Q Correct.

A Yeah, I saw those. I said at Gundersen when she was admitted.

Q Right. And, Doctor, my question is --

A Okay.

Q -- is that your own interpretation of the strip, or are you taking that from a report?

A Well, it's my interpretation, but I don't know if that's different -- I don't recall what the report says anymore. It could be identical. I don't recall.

Q And is what you describe in the first paragraph of Page 4 an acute ischemic change?

A Yes. Those would be acute ischemic changes.

Q Can you explain that, Doctor, for a layperson?

A Well, the EKG, there's a segment of it called the ST segment. It's the end of the QRS complex to the beginning of the T-wave. And that QRS segment can be elevated, can be depressed or at baseline.

If you have more than a millimeter of depression of that ST segment, it frequently is an indicator of active ischemia to a section of heart muscle.

Here, there were inverted -- there was ST depression in what we call the inferior leads, all looking at the same part of the heart, leads II, III and F, aVF, as well as lateral leads, which would be V3 and V6, with the inverted T-waves.

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So these EKGs not only are showing classic ischemic abnormalities, but they're also localized into an anatomic territory. So it's highly suggestive. But nothing is 100 percent proof. But this EKG is highly suggestive of an acute moment of ischemia to the left ventricle.

Q And is it your opinion to a reasonable degree of medical probability that she was experiencing ischemic injury throughout the afternoon?

A No, I didn't say that. I mean, she was showing acute ischemia. In part it could -- when you have a cardiomyopathy, as was her diagnosis for causation, you can have ischemia under certain stress states. And remember, that EKG was done after she had her cardiac arrest, so that could also be post arrest. But I mean -- but there was clearly, when she was admitted, EKG findings that are very consistent with an acute ischemia.

Q If you had an ischemic event sufficient to cause a change in the EKG, such as you've described, would you expect those to continue?

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A I don't know what you mean. Usually ischemia is transient. So you could have ST depression, which will then recover, because ischemia tends to come in waves. So, yeah, you would expect there to be recovery of those EKG changes.

Q And I guess the question I have, Doctor, is whether you're stating to a reasonable degree of medical probability that Ms. Boyer was experiencing ischemic -- experiencing ischemic chest pain throughout the afternoon of December 22nd?

MS. MAKAR: Objection. Form.

A I'm sorry. Can you please repeat that? I missed the first half.

BY MR. KNOTT:

Q The question that I have is whether you believe to a reasonable degree of medical probability that Ms. Boyer was experiencing ischemic chest pain the afternoon of December 22?

MS. MAKAR: Objection. Form.

A We can't know with absolute certainty. We do know that she did not have identifiable obstructive coronary disease, but that's not the only way you can get ischemic. Traditionally, you get ischemic or have heart attacks by a clot in an artery

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blocking the supply of blood. That wasn't her problem.

But under certain stress states, the increase of demand of oxygen can lead to that. In her case, she did have chest pain radiating to her left arm with shortness of breath, which are common coronary types of symptoms, and she had ischemic abnormalities, albeit after the code. So she might have. We don't know.

BY MR. KNOTT:

Q Ischemic abnormalities after what, Doctor?

A After her cardiac arrest when she was admitted to the hospital.

So she had, you know -- she had chest pain and she had EKG abnormalities looking like ischemia, but again, that was after the code, so we don't know.

Q People with anxiety and elevated blood pressure sometimes complain of chest pain and shortness of breath; is that a fair statement?

MS. MAKAR: Objection. Form.

A People with anxiety and what? Chest pressure?

BY MR. KNOTT:

Q Elevated blood pressure.

A Yes, what about it?

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Q Sometimes complain of chest pain and shortness of breath.

A Oh, my gosh. I mean, in theory, that could happen, but I mean, that's just -- usually we fight against that thinking because too many people are dismissed from having coronary symptoms by writing off symptoms of chest pain and shortness of breath to anxiety.

But, in theory, yes, you can have -- you can have chest pain and shortness of breath without it being a cardiac issue. It's possible.

Q Is it fair to say that many people present in primary care settings with a complaint of chest pain that has a noncardiac etiology?

MS. MAKAR: Objection. Form. Foundation. Outside the scope.

A It's a bit of a vague question. I think that chest pain is the most common symptom that brings people to medical attention in both an office as well as an add-on visit or an ER. But in those cases, an evaluation must be performed to see if it is coronary in most of those cases, and then you find out whether it was coronary or not. Some of them need to be in the hospital; some don't.

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So if somebody has acute onset of chest pain, you don't know with the tools at hand in your office whether it's coronary or not, so you have to make decisions: It is a cardiac arrest? It is prolonged? Is it episodic? Those details can make a big difference. But again, we're getting more into trying to diagnose her. My causation opinion is simply if she were in the hospital, she wouldn't have been dead.

BY MR. KNOTT:

Q Yeah, yeah. I'm trying to --

A You want me to agree with you -- you're trying to get me to say that she had things that were stabilizing which leaned towards your standard of care, and I'm not engaging in that. You're asking me about whether her chest pain --

Q Doctor -- Doctor, just let it go. Just stop.

A You're asking me things that are not in my report, and you're asking me things that are not involved in my opinion.

Q Yeah, I think you've been around the block, Doctor, and you know how this works. And I'm entitled to ask questions, and the fact that it's not in your report does not mean you get to determine relevance. So you're fine, we'll get

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through this, and it will be fairly brief, but I'm not going to have you lecture me or --

A Sir, I don't mean to offend you. I'm not trying to lecture you. It's just that my opinions are very straightforward. And quite frankly, I think that Dr. Wolff and I have no difference in our opinions in terms of -- no one challenged my causation opinion. No one.

Not one expert said -- my main opinion is, had she been sent to the hospital earlier, she would not have died. And no one has disagreed with that in any report. So I'm really confused why I'm even being deposed, because everyone agrees with me.

Q So just let me kind of break it down into what you've actually talked about in your report.

Again, I think there is a difference, and I'm trying to -- I'm trying to hone in on it. And I apologize, Doctor, I don't have the understanding of these fine points in medicine.

I guess I'm trying to understand what you mean when you say that there was a hypertensive event superimposed over a cardiomyopathy.

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MS. MAKAR: Objection. Form.
BY MR. KNOTT:
Q I hadn't asked a question yet. I'm trying to get there.
And physiologically, Doctor, what are you proposing occurred when you say that the hypertensive event was superimposed on a cardiomyopathy?
A Well, what I'm trying to get at in that comment, because her blood pressure had ups and downs, and we don't really have a track through the night, but the point is that because she has a cardiomyopathy, the same blood pressures that she might have formally tolerated become less tolerable because your heart's weakened. So if you have a normal ventricle and you have high blood pressure, it may not impact cardiac performance. But if you already have some damage to it and you haven't established cardiomyopathy, now the same blood pressures will lead to a higher risk of congestive symptoms.
So what we do -- all we know -- the problem is we don't have enough information.
She was having hypertensive episodes to the point of getting p.r.n. pills.

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She was not able to take her chronic medications. She, you know, wasn't getting her narcotics, so there could theoretically be some withdrawal from it. But at that point all we know is she's having chest discomfort to the left arm and she's having hypertensive episodes and shortness of breath. And then all we know there is that we don't have any data about what happened to her, and the next thing we know she's coding.
And to that degree, all I can say is that had she been in the hospital, she never would have coded, or if she did code, she would have been saved immediately. Because whatever led to her code didn't kill her. It caused her to code in the -- in the jail, and the delay intrinsic of an out-of-hospital cardiac arrest is what caused her brain to die. But she didn't die of any medical reason. It just caused her to code.
And all I'm saying is had she been in the hospital, she never would have coded. They would have prevented it or they would have resuscitated immediately. But I don't know what caused her to code. We don't have enough data. We just know a lot of things were going on.

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But in any given person, if you're having both chest pain, shortness of breath, high blood pressures that you're giving p.r.n. clonidine, we don't know what's going on, but it's concerning.
Q Right. And I think you'll agree with me -- and I'll move to strike to the extent you're stating a standard of care opinion --
A I wasn't really.
Q -- but I am trying to -- I am trying to understand exactly what you believe was going on.
And I understand the kind of general opinion that if she were in an ER, she would not have coded.
My question to you is, and I think I understand this: Is it fair to say that you do not have enough data to give an opinion that she was suffering chest pain due to cardiac ischemia between 7:00 and 8:00 p.m. on December 22?
MS. MAKAR: Objection. Mischaracterization of testimony. Form. Foundation.
A Well, we know that she reported having episodic pain all day long, but if you're saying that same pain reported between 7:00 and 8:00, whatever, we

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don't know if it's ischemic.
BY MR. KNOTT:
Q And --
A In retrospect, we don't really know if it's ischemic. It's just hard to know.
Q And you don't hold an opinion that she was experiencing an arrhythmia during the day on the 22nd. Fair?
MS. MAKAR: Objection.
A We know she had a long enough arrhythmia to cause her to have a hypoxic seizure, which was captured on video, but we don't know whether or not she was having shorter runs of arrhythmias like V-tach earlier in the day. Between her potassium being reduced and her different symptoms, it's possible she was having non-sustained arrhythmias. What we do know what happened is she arrested. And that's documented.
BY MR. KNOTT:
Q And you understand, Doctor, as a scientist and as a experienced expert witness that being able to say that something is more probable than not is an important distinction.
You understand that, correct?
MS. MAKAR: Objection. Form.

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A Of course I understand that.
BY MR. KNOTT:
Q Yeah. And you can't say that it is more probable than not that she was experiencing arrhythmia during the day on the 22nd?
MS. MAKAR: Objection.
A Correct. Correct, I cannot say that.
BY MR. KNOTT:
Q I have something cued up here, Doc, and I just want your input on it.
We can mark this as Exhibit 121.
It's GHS1339. Doctor, can you read that? I can blow it up a little.
A Do you want me to read it out loud --
Q Read it to yourself.
A -- or are you asking me if I can read it?
Q It's the note of the emergency room provider the morning of December 23.
A (Witness reads.) Yeah, I see that.
Q And I've highlighted the sentence that begins -- or the passage that begins, "Initial EKG," and it ends with "begin with."
Can you interpret that for us, Doctor, if you're able, as to what the emergency room physician and cardiologist believe occurred

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in terms of the EKG?
A Yes. They're saying that the paramedic, which often do 12-lead EKGs, found there to be ST depression in the leads I discussed earlier, II, III and aVF. Those are inferior leads. And there was ST elevation in lead aVL, but that's not that important. But there was ST depression in the inferior leads, but then that resolved. Again, ischemia does tend to resolve. And they're not 100 percent sure if that ischemia was present to provoke the arrest or if it was a consequence of the arrest. And I agree with that, too.
But there was no reason to take her to the cath lab because it had resolved.
Q Okay. I've put on the screen GHS1559, which we'll mark as Exhibit 122.
Have you seen that before, Doctor?
It's an EKG strip.
A Yes, I have.
Q And one of the providers wrote at the bottom, "torsades de pointes." I think that's how you pronounce it.
A Yes. P-O-I-N-T-E-S. So it would be "pointes," but you're pronouncing it with a French accent.
Q Okay. Thank you. I'd rather pronounce it with my

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Iowan accent.
Doctor, do you agree that that shows that the strip is accurately interpreted as torsades pointes?
A Just say torsades. T-O-R-S-A-D-E-S. Torsades. Yes, it is torsades.
Q And torsades is a non-ischemic pattern; is that fair?
A It's not ischemia. It's a form of ventricular tachycardia. It can occur in ischemia. It has no comment on whether there's ischemia. It's just a form of V-tach. It can be precipitated by electrolyte, but it doesn't mean there isn't an element of ischemia. It's just neutral on that.
Q So isn't it true, Doctor, that torsades is pathognomonic of an electrolyte imbalance?
MS. MAKAR: Objection. Form.
A It is not. It is most common in patients with prolonged QT intervals. That can occur from ischemia and heart attacks, that can occur from medications with normal electrolytes, and it can occur in abnormal electrolytes.
So, for example, I've seen patients have torsades who received the drug Lidocaine, and they get too much of it, their QT interval

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prolonged and they have torsades with normal potassium. Certainly this patient has low potassium, which means their threshold to going into torsades is lower.
So if a person who has a potassium of two-three gets ischemic, it's more likely their V-tach will be torsades. It's just a form of V-tach that's influenced by things that prolong the QT interval. And it's not -- it's not diagnostic of an electrolyte problem.
BY MR. KNOTT:
Q It's associated with an electrolyte problem?
A Can be associated with certain electrolyte problems, but that's not the only reason why it occurs.
Q And if I understood --
A It's more common with medications than it is with electrolytes.
Q Okay. If I understood your response correctly, this pattern, torsades, presents in response to ischemia, one; medication, two; torsades, three? I mean electrolyte imbalance, three?
A What did you say one was?
Q Ischemia.
A No, I didn't say ischemia. What I'm saying is

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that this form of ventricular tachycardia, it's a form of V-tach, it is more likely to occur if someone's going to have ventricular tachycardia in conditions that prolong the QT interval. Those conditions can include low potassium, electrolytes. Those conditions can include a lot of different medications, which is actually the most common form of torsades is medications that prolong the QT interval.

Ischemia, especially in the setting of cardiomyopathy, or dead or damaged muscle, also is at risk for a long QT interval.

But the point is that if somebody has an electrolyte abnormality and then they get ischemic, if the ischemia is going to cause V-tach, if they have a low potassium, it's going to be torsades V-tach.

So you have no diagnostic utility here. It just says that this patient had V-tach and it was torsades. Unquestionably, the fact that the potassium was low is a strong indicator of that being the reason why the V-tach is torsades, but it doesn't tell you that that's what initiated the torsades.

Q She had a second episode of V-tach the morning of

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December 24th?

A Yes.

Q Do you agree that that was likely precipitated by the electrolyte imbalance?

A Well, there were orders trying to correct it, so I don't know if that's -- remember, when this patient had a code, there's -- you know, even though she recovered from the acute code, the heart gets even further damaged because there was a code and more irritable. So you might have more V-tach just because you already survived a code.

Q And anything, in terms of a potassium level, anything below 3.0 is profoundly reduced.

Do you agree with that?

MS. MAKAR: Objection. Form.

A A, I wouldn't have a cutoff for profound. People with cardiomyopathies of any type, we try to keep the potassium over 4. And we find under 3.5 to be more unacceptable, and then as you drop, it progressively has greater and greater instability. But we don't have a single cutoff that says above 3, lower than 3. But the lower you get, the worse it is in terms of risk.

But, on the other hand, she was not in refractory torsades all day. It wasn't -- I've

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seen people who have Lidocaine toxicity go into V-tach torsades and it doesn't stop. It will go on for hours while being shocked, so you have to put in a pacemaker and speed up the heart. The point is she wasn't having it every five seconds. She had periods of no torsades, which makes an argument that it wasn't only electrolytes.

Q When did she have periods of no torsades?

A When she was admitted. She wasn't having every five minutes getting shocked out of torsades.

Q Do you agree that a potassium level of 2.3 puts a person at substantial risk of arrhythmia?

MS. MAKAR: Objection. Form.

A Yes. But the only qualification I'd have on that is that in her cardiac arrest, she got multiple doses of epinephrine. That's standard for all ACLS protocols. And epinephrine injections will drop your serum potassium.

So when her potassium went to 2.3, although it came back to 2.6, it's not 100 percent clear if it really was 2.3 before her arrest, because she got a lot of epinephrine. But she did have 2.6 before she was hospitalized and didn't have an arrhythmia.

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BY MR. KNOTT:

Q She had 2.6?

A As an outpatient, yes.

Q No one can know what her potassium level was on the day of her admission to the jail. You'd agree with that?

A Correct.

THE STENOGRAPHER: I'm sorry? Did you say "correct"?

A Yes. Just stretching.

BY MR. KNOTT:

Q Does pulmonary edema cause chest pain?

A It could, but usually chest pain is part of the reason why someone has pulmonary edema. But developing pulmonary edema could independently cause chest pain, yes, it's possible.

Q Pulmonary edema could cause shortness of breath. True?

A Yeah, definitely causes shortness of breath, and in theory can cause chest pain.

MR. KNOTT: Am I still sharing?

MS. MAKAR: No.

BY MR. KNOTT:

Q I want to look at your report, Doctor, Page 5.

A Okay.

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Q In the third paragraph, second sentence, "Her cardiac arrest was provoked by her hypertensive episode" --
A I'm sorry. The third full paragraph? I'm not sure -- Page 5?
Q Page 5, third full paragraph.
A That begins with "It is my opinion"?
Q Correct.
A Okay.
Q But I'm focused on the second sentence.
A Yes.
Q "Her cardiac arrest was provoked by her hypertensive episodes recorded during the afternoon and evening of 12/22/19" --
A Yes.
Q -- open paren, "(provoking congestive heart failure and coronary artery ischemia)," closed paren, period.
Do you have -- strike that.
What is the basis for your statement there that she had coronary artery ischemia?
A Well, the EKG showed -- a lot of people have cardiac arrest but they don't show focal ischemia on a 12-lead. She had ischemia on the EKG. She

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had a ventricular tachycardia arrest. She had chest pain, shortness of breath, and high blood pressure.
So all together, that would be my most likely formulation of what occurred. Oddly enough, that has nothing to do with my causation opinion, in that no matter what she had, she would have survived if she were in the emergency room before it happened.
But my best formulation, the one that makes the most sense, so my opinion is with a reasonable degree of medical certainty, not absolute certainty, reasonable degree of medical certainty something happened where her blood pressure was going up. We don't have any data as to how high it went after the last check. And, that led -- and more likely than not, her blood pressure going up would make chest pain and shortness of breath happen in her case.
So I think the best formulation of what happened is, since she had heart disease, was that she had hypertension which led to congestion, and in her case, because of the underlying structural heart disease, transient ischemia that led to V-tach and her arrest. I think it's the

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most logical assessment based on the normal methodology we use to evaluate a patient in the real world.
Q And I'm just trying to focus in on some individual pillars of your opinion here, Doctor. I appreciate that. I think I understand your overall opinion.
A It's not really a pillar of my opinion, of course, because it doesn't matter what she coded from. If she were in a hospital, she would either have not arrested or she would have been survived with a normal brain, because she only died because her brain was abnormal.
Q I've been given a report, Doctor, and I'm trying to understand it. Okay?
A Yes.
Q There were no findings of pathology in her coronary arteries on autopsy?
A Yes. We know she did not have coronary disease. Right.
Q And so what I'm trying to understand, Doctor, is that reference in that particular paragraph to coronary artery ischemia. What are you postulating occurred in her coronary arteries that -- that contributed to her death?

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A I'm sorry. It's probably just the use of coronary artery ischemia. It's just the term we use for ischemia. Ischemia is any time the demand for fuel in the heart is greater than the blood supply delivered.
Now, traditionally when we think of coronary ischemia, we think of an obstructed coronary artery with atherosclerosis plus or minus a clot that could be dynamic.
But the other ways you could have coronary ischemia is an increase in demand due to a profound stress on the heart. And high blood pressure cannot only increase demand, it can also reduce supply by making the muscle tighten up, so it would be at a microvascular bed level. So you can have ischemia without having obstructive coronary disease. So that's all I'm saying.
Q Just want to make sure that I understand, Doctor.
She first reported symptoms at 3:00 p.m. on Sunday, December 22. That's referenced in your report?
A She was first reported that she had been having symptoms that day. That's not when she first had symptoms. She reported that she was having episodic symptoms all day. Right? I just want to

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be clear about that.
Q Well, that's a fact question that will have to be resolved. But let's assume -- let's just pinpoint 3:00 p.m. when she first reported symptoms.
You do not have a basis to say that she was experiencing ventricular tachycardia at that time, correct?
A Correct. Of course.
Q Of course not?
A Of course I never said she had ventricular tachycardia at that time. There's no basis to know if she did or didn't.
Q You agree that she more likely than not did not have an arrhythmia at that time?
MS. MAKAR: Objection. Form.
A I don't know whether -- you can't determine whether she was having non-sustained bursts of V-tach. There's no way to know.
BY MR. KNOTT:
Q You state in your report that her hypokalemia was a substantial contributing factor, correct?
A Towards her having V-tach, yes.
Q You're, of course, not able to state the relative contribution of her hypokalemia versus her congestive heart failure?

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A There's no way to know the role of either one. I think her low potassium was a significant contributing factor.
Q Is a potassium level of 2.3 sufficiently depressed to have triggered a ventricular arrhythmia and arrest on its own?
A In theory, yes. But I figure it's very unlikely because her arrest just didn't happen out of the blue. It happened in the setting of her needing urgent drugs for blood pressure control and her having chest pain that day. I don't think you could exclude those.
So I can't give you that with absolute certainty, but I think with reasonable certainty the low potassium lowered the trigger of firing, but something else pulled the trigger. It was just a hairpin trigger.
Q If I ask you to define major hypertension as you use it on Page 5, I assume you'd tell me that it's relative to the patient?
MS. MAKAR: Objection.
A Yes, relative to the patient.
BY MR. KNOTT:
Q We looked previously at the particular cut and paste on Page 3. Do you agree with me that the

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vitals that are shown on Page 3 are inconsistent with a sustained ventricular arrhythmia?
MS. MAKAR: Objection.
A There's no chance -- she could not have had a sustained arrhythmia. She would have coded. So -- she could have AFib or other arrhythmias, but in terms of ventricular arrhythmias, she could not have had a sustained ventricular arrhythmia at that point.
BY MR. KNOTT:
Q You quote in your report Gundersen records that had -- that identify the contribution of electrolyte imbalance as a source of the arrest. Her providers were identifying that as a likely cause of her arrest, correct?
A Yes.
Q Are you aware of any report from Gundersen that identifies episodic hypertension as a contributor to her arrest?
A I didn't see anything. But on the other hand, I don't know whether they were aware of what was going on in the present -- in the jail. I don't know if they were aware she had episodic chest pain on again/off again that day. Because she came in with cardiac arrest, she couldn't give a

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history. So I don't know whether they were aware she had the need for p.r.n. clonidine, so I don't know what they knew. But nor is it that important. It has nothing to do with my opinion, but I don't know if they knew.
Q Doctor, how is malignant hypertension defined?
A It's defined by a person having end-organ damage as a result of hypertension, usually with diastolics that go over 100 or 110. But again, it depends on the context of the person. But it usually means high blood pressure that is clinically believed to be causing heart failure or chest pain. Symptomatic hypertension on a cardiovascular system. Did I use the word "malignant hypertension" in my report? Because I don't recall that. I don't think I used the word malignant hypertension, because she didn't have malignant hypertension. I never raised that as an issue.
Q Okay. What I was getting at is, do you have any understanding of what the source was of her potassium wasting disorder?
A No. She was identified to have it as an outpatient, and I don't know what caused her disorder. She was not really on a diuretic to

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explain it, but I don't know what was causing it.
Q You agree that it's most likely some sort of kidney disorder resulting from her childhood cancer treatment?
A Maybe. I'm not too sure that would cause -- I don't know how long she had her potassium problem.
Q Is it potentially related to her -- her chronic hypertension?
MS. MAKAR: Objection. Form. Foundation.
A I'm not sure I understand what you're saying. You don't get potassium wasting from being hypertensive, but you do get it from medications. But she's been on the drug Vasotec for a long time, and that raises potassium. But despite that, she still had low potassium. And I don't recall her being on a potassium-wasting drug, so I don't know what the basis is. I'm not sure.
BY MR. KNOTT:
Q What was the drug you said, Vasotec?
A Sorry. Lisinopril. Lisinopril. It's a cousin. She was on lisinopril 40 milligrams forever. Since at least 2011 I saw her on it, the same dose, all those years.
Q And with respect to your opinion on life

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expectancy, you referenced the CDC tables, correct?
A Yes.
Q And where did you locate those, Doctor?
A Online. You can look up CDC life tables for the year 2019, whatever the year.
Q Did you do that in this case?
A Yes.
Q And obviously, they don't have a cohort for individuals with congestive heart failure, right?
MS. MAKAR: Objection. Form.
A They do in that what you get is the average life expectancy for a population. For any given population of people, let's take all 41-year-olds, if they get 40 more years, that's 81. You could break all 40-year-olds into three theoretic groups. One group are the healthiest 41-year-olds with zero medical problems in good shop. You know they're going to live longer than the average of 81; these are the people that make it into their late 80s or 90s or older.
Then you have a population of people who are 41 who have horrible short-term prognoses; they're on dialysis with no hope of getting a transplant, or they have major organ

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failure or malignant cancer, and they're not going to make it five years. And then you have the average 41-year-old who have medical problems. That's baked into the average. It's not -- there's no such thing as a normal life expectancy. There is an average life expectancy. Reduced her from the average. But the average includes people who have different problems.
And her heart failure, by the way, was not much of an issue as a outpatient. She had a cardiomyopathy, but she was reported on her last visit prior to this admission of having no shortness of breath. So she had Class I heart failure, which means she had no known limit. So she had disease but no major -- she wasn't in sustained or chronic heart failure as a symptom.
BY MR. KNOTT:
Q So even just -- Doctor, do you consult the CDC tables in your day-to-day practice?
A On rare occasions I do, but usually not. I think through my practice of being in medicine for over 40 years, 45 years, actually, now, I think I begin to, you know, understand the impact of disease states on life expectancy. The tables just give a more formal understanding of that, a quantitative

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understanding.
Q In this case, though, you started with the CDC tables, right?
A Right.
Q And in your daily practice, if someone wanted to know their prognosis and their outlook going forward, you would use your knowledge of that particular patient and you would not consult the CDC table. Fair?
A Yes and no, 'cause the table corresponds to what I already know in medicine. And I usually don't give people a life expectancy. I would just tell them that they have a disease which has risk, and I deal it from a prospective viewpoint with telling them the steps they could do to optimize it. But I usually don't say to a patient, you have a 31.3 -- 31.3 year life expectancy. The population --
Q Can you answer my question? In speaking to your patients, you're not likely to consult the CDC table to talk about their prognosis?
A Well, it's not a table for prognosis. It's an average life expectancy for population, so it wouldn't be part of day-to-day practice.
Q I didn't hear the end of that, Doctor.

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A It would not be part of day-to-day practice to quote a population survival curve.
Q And in this case, even though you described how the medical conditions are baked into the CDC curve, you did factor in your assessment congestive heart failure?
A Yeah, but her heart failure was not a major factor in her survival, in part, because she didn't have clinical heart failure. She had damage to the left ventricle, which is different. But she was not being treated with diuretics. She wasn't admitted to the hospital with recurrent shortness of breath. So she didn't really have congestive heart failure. She was found to have a cardiomyopathy at a very low burning level that was not interfering with her day-to-day function. She never had --
Q Page 8 of your report, Doctor. I don't -- I don't want to argue about this. I'm trying to get at your methodology. Her only serious long-term medical problem was her underlying cardiomyopathy?
A But that's not heart failure. That's cardiomyopathy.
Q Okay.
A There's a difference between cardiomyopathy and --

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you can have a cardiomyopathy and be totally asymptomatic.
Q Okay. All right. So your methodology, sir, was to start with the CDC life table. And the single medical condition that you considered was her underlying cardiomyopathy. Fair?
MS. MAKAR: Objection. Form.
A Those are things that potentially can jeopardize life expectancy, yes. Her other problems were meaningful but they weren't threatening her -- (unintelligible) --
THE STENOGRAPHER: I'm sorry, Doctor. I didn't hear you. "Her other problems were meaningful but they" --
A Her other problems were meaningful to her, but they were not jeopardizing her life expectancy.
BY MR. KNOTT:
Q Mrs. Boyer was -- or Ms. Boyer was a smoker. Does that have an impact on life expectancy?
A It certainly can. Certainly would potentially add to weighing down. But of note, despite her coronary risk factors, she had clean coronary arteries at 41, which is good news.
Q Her smoking is not a factor that you considered in your assessment of her life expectancy. Fair?

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MS. MAKAR: Objection. Form. Foundation.
A It's baked in there a little bit, yes, but it's not a major factor in her life expectancy. If she had coronary disease or cancer it would be, but she didn't have cancer on her autopsy, and she didn't have coronary disease. But of course, you would have to weigh it. And remember, cigarette smokers 22 percent -- probably 20 percent of all 40-year-olds are smokers, so that's somewhat baked into the average. That's already part of the average.
BY MR. KNOTT:
Q So I want you to -- I want to tick through her medical conditions and tell me whether you considered them as a serious long-term medical problem that impacted her life expectancy versus something that was baked into the tables. Hypertension; was that individually considered for Ms. Boyer?
A That's baked into the table.
Q So you did not consider it independently?
MS. MAKAR: Objection.
A It's part of weighing everything all together.

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BY MR. KNOTT:
Q Yeah, I understand that. She was narcotic dependent. Is that a factor that you considered as impacting her life expectancy?
A No. She --
MS. MAKAR: Objection.
A She wasn't taking an illegal drug or street drugs. She was getting it prescribed. They were trying to deal with her chronic pain syndrome, so that should not impact her life expectancy. It's just terrible that she had so much pain, but it's not a life expectancy issue.
BY MR. KNOTT:
Q Did you consider or dig into the source of her abdominal pain when you're considering her life expectancy?
A It was obviously pain that was residual from the cancer she had and the multiple complications of bowel obstructions and issues she had in her pelvis and abdomen. But there's no delving into it. I mean I wasn't able to examine her. But to that degree she had -- it was a quality of life issue.
Q She had asthma. That's not a factor that you

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considered independently?
MS. MAKAR: Objection. Form. Foundation.
A It's one of those things that's baked into the average of the life expectancy curve.
BY MR. KNOTT:
Q Doctor, there's -- there's --
A Her asthma was not horrible. It wasn't as if she went to ERs and was getting intubated or being in ICUs or even having recurrent ER visits. She had mild asthma. That's not going to affect -- that's baked into the average life expectancy curve. There's a magnitude to these things. And I think she's only been a smoker --
Q Doctor, there's -- there's data available on the impact of smoking on life expectancy, isn't there?
A I think it depends on how much you smoke, because I think she was a half a pack a day.
Q And there's data available. You didn't consult it. Fair?
MS. MAKAR: Objection. Form. Foundation.
A It's baked into her life expectancy.
BY MR. KNOTT:
Q So you didn't consult any other -- any independent

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data on her -- the impact of tobacco abuse on life expectancy?
A I didn't --
MS. MAKAR: Form.
A -- do research, because I know clinically the impact of different abnormalities, including cigarette smoking and how it has its impact on both quality of life and survival. So I'm aware of these things. I didn't have to do research.
BY MR. KNOTT:
Q She had refractory, urinary and fecal incontinence. Is that a factor that you considered independently in her life expectancy?
MS. MAKAR: Objection. Form. Foundation. Misstates the record.
A It was considered as a quality of life issue, but not one that impacted her life expectancy.
BY MR. KNOTT:
Q So the answer is no?
MS. MAKAR: Objection. Form.
A I did -- there's no impact it would have that would significantly impact life expectancy. It's a chronic manageable problem.
BY MR. KNOTT:
Q She had some sort of potassium-wasting condition

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which you did not consider individually in assessing her life expectancy?
MS. MAKAR: Objection. Form. Foundation. Misstates the record.
A I'm sorry. I missed something you said. What did you say?
BY MR. KNOTT:
Q She had a potassium-wasting condition which you did not consider individually?
A It would have been manageable. I don't know what caused it, but they -- an endocrine workup would be necessary, and whatever cause, it would be treatable.
There was no cancer found on autopsy, so she wasn't dealing with a tumor.
Q And Ms. Boyer had a history of noncompliance with her potassium supplement. You're aware of that?
MS. MAKAR: Same objection.
A A lot of people don't like taking potassium supplements. But her problem is way beyond potassium supplements. It's a different issue. It's physiologic.
BY MR. KNOTT:
Q Do you think that walking around on the streets with a potassium level below 3 creates a

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substantial risk of sudden death?
MS. MAKAR: Same objections.
A I think it was an easily manageable problem, and I think that this certainly -- had she had the torsades and survived it in the ER, it would have become the focus of a workup to find out what's going on, as well as within reasonable certainty implanting a defibrillator, because that is a risk to her. And this arrest, if it occurred, would have required her to get a defibrillator. That or absolutely diagnose what's going on and then find out how to treat it.
BY MR. KNOTT:
Q She had three bowel obstruction surgeries resulting in colostomies. You're aware of that?
MS. MAKAR: Same objections.
A Yes.
BY MR. KNOTT:
Q And that's -- the fact that she had three colostomies is not a factor you considered in assessing her life expectancy?
MS. MAKAR: Same objection.
A Not a major one, no. It's baked in.
BY MR. KNOTT:
Q Do you agree, Doctor, that if you went to other

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cardiologists to speak to them about their opinion on her life expectancy that the approach to assessing that would likely vary?

MS. MAKAR: Objection. Form. Foundation.

A That's a very vague question, so I don't know what you're asking.

BY MR. KNOTT:

Q If you went to talk to five cardiologists about this issue of her life expectancy, do you agree that there is likely to be multiple approaches to how to estimate that?

MS. MAKAR: Same objection.

A If I were to approach other cardiologists, I would ask them what of her chronic medical conditions or problems are an acute threat to her life and how does that factor in, and I'd have a conversation. I don't think we would have a vast difference, but there may be some difference.

BY MR. KNOTT:

Q Your report makes no reference to withdrawal from drugs or alcohol as contributing to the sequence of events. You don't hold an opinion that Ms. Boyer was experiencing withdrawal from drugs or alcohol, do you?

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A She might have been withdrawing from drugs or alcohol. I don't know. But it doesn't change my causation opinion that had she been sent to a hospital in a timely manner she would have survived.

Q Then just let me wrap up that point.

A I thought I mentioned her narcotics, but maybe I didn't. I thought I did.

Q Doctor, can you state to a reasonable degree of medical probability that Ms. Boyer was experiencing withdrawal from drugs or alcohol on December 21st, 22nd or 23rd?

A I don't know.

Q And so you cannot state to a reasonable degree of medical probability that she was experiencing withdrawal from alcohol?

MS. MAKAR: Objection. Form.

A I don't know, and again, it doesn't affect my causation opinion at all. That's a standard of care issue, not a causation issue.

MR. KNOTT: Doctor, I'm going to allow some of these other attorneys to ask questions and they'll introduce themselves. I'm going to look through my notes while they do that.

THE WITNESS: Okay.

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MR. KNOTT: Thank you.

MR. JONES: I suggest we take a five- or 10-minute break.

MR. KNOTT: Sure. Okay by me.

MS. MAKAR: Five or ten, Andrew?

MR. JONES: Why don't we go for it. We'll take a 10-minute break. 12:25.

MS. MAKAR: Okay.

THE WITNESS: It's now 1:15.

MR. JONES: 1:25, Doctor.

THE WITNESS: Okay. Thank you.

MR. JONES: Sure.

(Brief recess taken from 12:15 p.m. to 12:25 p.m.)

E X A M I N A T I O N

BY MR. JONES:

Q Doctor, I'm Andrew Jones. I don't have all that many questions for you, but I do want to follow up on some things that you talked about with Mr. Knott.

I am counsel for Monroe County and several of its correctional staff. Can you hear me okay?

A Yes, I can. Thank you.

Q I thought I understood you to say during your

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testimony that you don't know what caused Mrs. Boyer to code in the early morning hours of December 23rd; is that correct?

A Well, I don't know with enough -- I can say with reasonable medical certainty that she developed a spiral of high blood pressure, shortness of breath, resulting in, and with her low potassium, all conspiring to cause a cardiac arrest. I think that's the most reasonable explanation with all the medical facts.

So I can say with a reasonable medical certainty, not absolute certainty, but reasonable certainty that somewhere she developed a spiral of chest pain -- I mean of high blood pressure, which resulted in chest pain, shortness of breath, and then because she had low potassium, throwing her into an arrest. That's the most likely explanation with all the facts we know.

Q And are you offering that opinion in this case?

A Yes, but it's totally irrelevant to my main opinion, which doesn't matter what she had. She didn't die of it. She coded. So my main opinion is if she were in a hospital, she would not be dead.

Q Okay. And I understand that you also are offering

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that opinion. I just want to be clear on whether you're offering the opinion you just gave now in your last answer as to what caused her to code?

MS. MAKAR: Objection. Form.

A I'm saying that I think it's with reasonable certainty the most likely explanation of what occurred. But it doesn't matter to my main causation opinion. It has nothing really to do with causation, only to the degree that she didn't die of something that was meant to kill her.

Because you can -- for example, if someone said she had pneumonia, I think it's highly unlikely, but pneumonia kills you two ways; either major oxygen saturation drops, which never occurred here, someone's on 100 percent oxygen, you can't get any more in, they die, or they die of sepsis with low blood pressure. She didn't die of that. She didn't die of anything because her body recovered. It's her brain that was permanently damaged.

So no matter what triggered her arrest, ultimately that got better. The only thing we were left with was the brain damage, which was only a consequence of having such an event occur outside of a hospital. So that's my

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point.

So it really is not that important as to what I believe was the sequence of events that led to her arrest, but I think that is what most likely, in terms of causation, to have led to her arrest. I think it was related to her cardiomyopathy.

BY MR. JONES:

Q And if I understood the explanation you gave and offered in your report, it's her elevated blood pressure in combination with the underlying cardiomyopathy, that is, the reduced function of her left ventricle, and then with the low potassium level that caused her to have ischemia?

A The low potassium had nothing to do with anything more than causing a torsades cardiac arrest. That's the electrical event caused by clinical events that triggered an electrical event.

Q All right. Am I correct in understanding that you're saying, though, that the elevated blood pressure over the course of the afternoon in combination with the condition of her left ventricle caused her to have ischemia to some or all of the heart?

MS. MAKAR: Objection. Form.

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A With reasonable certainty, it caused local ischemia in her inferior wall, because those are the leads that were affected. And I think that somehow the combination of all of that with the low potassium triggered the cardiac arrest.

BY MR. JONES:

Q As a layperson, I understand ischemia to mean reduced blood flow to some portion of the heart; is that correct?

A No. Ischemia means insufficient oxygen delivery for the work being demanded.

The most common cause of ischemia is a blocked coronary artery with atherosclerosis with or without an acute blood clot, which can be an acute issue. But ischemia is any time there's a mismatch of supply and demand.

In this case, the demand for fuel goes up under stressed states, which would be included in a hypertensive episode as well as hypertension, and a low EF can lead to difficulty of blood getting through the muscle because the muscle is being stressed. So it's not the arteries themselves. So you can have both a reduction of supply and an increase in demand during such episodes, which can lead to chest pain

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and EKG changes.

Q So am I correct in understanding that the increased demand, that would be a function of the elevated blood pressure?

MS. MAKAR: Objection. Form.

A Not that alone. The elevated blood pressure in conjunction with the cardiomyopathy. Either.

BY MR. JONES:

Q And the cardiomyopathy, am I correct in understanding that that affects the ability of the heart to supply? I'm trying to understand what you say the mismatch between the supply and demand --

A No. It's -- somehow I'm not obviously being very understandable, and I apologize for that. I don't know what I'm saying wrong.

Q Well, it may be the listener, too. So...

A It has to be me, because I usually can make things clear. Let me try one more time, and I apologize.

If you have a combination of cardiomyopathy, some damage to someone's heart, left ventricle, and high blood pressure, makes them feel short of breath, they go into heart failure, that can lead to ischemia in the heart muscle through a number of mechanisms, one of

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which is the ventricle can stiffen under the setting of some high blood pressure, shortness of breath, which can in the muscle layer reduce blood flow through the muscle, because these arteries have to penetrate the muscle. So even though the big arteries are open, going through the muscle, it can tighten down on the small blood vessels leading to small vessel ischemia.

Also, the work demand of the ventricle goes up when you have high blood pressure on top of a cardiomyopathy. So she had both reasons for -- and if she was withdrawing from drugs, it would certainly contribute to a spiral, but I don't know how much that was a role for her. All I can tell you is there was a spiral. Here's a lady who comes in with known heart disease. That's her only major systemic organ disease, who in the hospital has high blood pressure, which is cardiovascular, has chest pain which sounds cardiovascular, and she has an arrhythmia, which is cardiovascular. It's difficult to believe those are not all unified by the same cardiovascular process.

Q Am I correct -- well, do you know the underlying cause of the cardiomyopathy?

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A It is unknown in her.

Q I'm sorry?

A It is unknown in her.

Q Thank you.

A It's called idiopathic, meaning they didn't know the reason.

Q And the cardiomyopathy that she had, is that -- is there a way to characterize that in terms of being mild, moderate or severe?

A Well, you can use kind of blunt terms with three categories, or you could just say she had an ejection fraction of, what was it, 40 to 45 percent? I'm sorry. I forgot what her ejection fraction was. It was 35 to 40 percent.

So she had an ejection fraction -- normal ejection fractions range between 50 and 70. Most people are 60 percent, which means 60 percent of the blood gets squeezed out by the muscle when the heart beats. In her case only 35 to 40. So quantifying it is better than coming up with a general descriptor.

Q If you had to put a general descriptor on it, what would it be?

A Mild to moderate LV reduction. On the other hand, clinically, she was not in clinical heart failure,

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so that's another favorable.

Q Well, that was my next question. Am I correct in understanding you to say that she did not have congestive heart failure?

A She did not have symptoms of congestive heart failure as a chronic issue. Her records show that she had no other symptoms. In November of 2019 she was seen at her outpatient cardiology and they said no chest pain, no shortness of breath. And that's consistent with other visits.

Q Well, do you understand her to have been diagnosed with congestive heart failure?

A Well, again, congestive heart failure, some people just relate saying a low ejection fraction is congestive heart failure. But you really have to have congestive heart failure. She wasn't on a diuretic. She was on spirolactone, which is a potassium sparing diuretic, but it wasn't like she was on Lasix. I didn't see evidence of that. I didn't see her needing to have fluid taken off, having leg edema, I don't see any volume overload. So I don't see any evidence of congestive heart failure, just she had a damaged ventricle.

Q On your review of her medical history, she did not have any evidence of congestive heart failure; is

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that a correct statement?

A I couldn't find any. Certainly not as a chronic issue, congestive heart failure.

Q When -- what is the definition of coronary artery ischemia?

A Well, it was a poor use of terms when I said it. Ischemia is ischemia, meaning not enough blood supplied for the demand for fuel. Usually when you say coronary ischemia, you're talking about a blocked coronary artery. But it was just poor -- it was just sloppy language there. I was just using that as opposed to saying ischemia. But it's a poor term. She didn't have technically coronary artery ischemia. She had ischemia.

Q So normally coronary artery ischemia would refer to a blockage, a reduced blood flow through the coronary artery?

A Yes, usually that's what it means.

Q I understood you to say that in between Friday and today you've reviewed the report of Dr. Wolff, Matthew Wolff?

A Between Friday and today? I don't remember when I got it. It was recent, but I don't know if I got it Friday.

Q Fair enough. That's my edition. I'll rephrase

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it.

Am I correct in understanding that you have reviewed the written report by Dr. Wolff?

A Yes, I have.

Q And I understand you have it with you right there?

A I do.

Q And just broadly speaking, are there any opinions offered by Dr. Wolff that you take issue with or disagreed with?

A There's only one thing he said in his report that I take some issue with, but I think if we go through his opinions, they all agree with me. There's nothing in his report that varies from what I said.

But he described her blood pressure in what I think is a strange term. You can have resistant hypertension, but he called her severe multidrug resistant hypertension to make it sound very severe.

Q Can you -- I'm sorry. Can I just stop you briefly and have you point me to what -- what specifically you're referring to or just give me a page and line.

A Page 3 on the second half of the page, the second paragraph under Brief Medical Summary, and he said

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here, "Her medical history was also notable for severe multidrug resistant hypertension."

Now, we use kind of multidrug resistant for antibiotics resistance. And there's no evidence she had severe multidrug resistant hypertension, because looking at her chart, she was on the same drugs for hypertension for the last eight years without even changing the doses. And there were periods in 2017 where she had worse high blood pressure, and it wasn't well controlled, at least not perfectly controlled, but there's no evidence of any drug resistance. It wasn't like they were putting her on a new drug every month and it kept failing. They never changed her drugs.

So how do you say she is severe multidrug resistant? All we see is she continued to have hypertension despite her current medical regimen. Doesn't mean she had any resistance. So there was no increase in her drugs. There was no addition. So it's just a bizarre thing to throw into a report saying she had severe multi-resistant hypertension. That's the only small comment.

But otherwise, I think he agrees

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with everything I said, or we're not in variance. His main opinions that I think I can agree with is that she had a primary ventricular arrhythmia. Yes, I agree, although something may have triggered it.

Two, it was precipitated by severe low potassium. I agree, a significant contributing factor. Three --

Q Doctor, Doctor, if I may save you some time --

A Go ahead.

Q -- other than his reference to her medical history having been notable for what he phrased as a severe multidrug resistant hypertension, is there any other portion of Dr. Wolff's written report that you disagree with?

MS. MAKAR: Objection. Form.

A It's a little broad, because I haven't memorized his report. I did review it. I don't remember any major area of disagreement. But that doesn't mean I'm blanketly saying I agree with every sentence. I don't remember. There's no major point that he brought up that I think requires me to rebut. But somehow --

BY MR. JONES:

Q Well, he offered -- hang on. Bear with me. He

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offered seven numbered opinions in his report.

Do you disagree with any of the seven numbered opinions that Dr. Wolff sets out in his report?

MS. MAKAR: Objection. Form.

A Well, to begin with, he gave eight opinions because he listed two different sixes. On Page 7, he has two different opinion sixes, so I think he has eight opinions, because Opinion 7 is actually Opinion 8. Just --

BY MR. JONES:

Q With that clarification --

A With that clarification --

Q -- let me --

A I want to go through and make sure -- I want to go through and make sure I have them.

Q Let me make sure that the question is on the record, though, Doctor, since we spoke over each other, and I will try not to do that.

A Sure.

Q Of Dr. Wolff's eight numbered opinions, are there any that you disagree with?

A Well, I have to go through them to make sure. One of them I don't have a comment on.

So one, he gives the opinion that

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her arrest, No. 1 opinion, was due to a primary arrhythmia, V-tach or V-fib. I agree with that.

Two, the ultimate fatal ventricular arrhythmic arrest was precipitated by severe hypokalemia, low potassium. I agree with that to the degree that it was a significant contributing factor.

And by the way, the arrhythmia wasn't fatal. The neurologic injury due to the fact this was out of hospital is what was fatal.

Three, her severe low potassium predated her coming into the jail. I agree.

Four, her dilated cardiomyopathy increased her vulnerability to a malignant arrhythmia. I agree with that.

Seven -- I mean that was Opinion No. 4.

Opinion No. 5, her cardiac arrest was not due to an acute myocardial infarction, and her chest complaints prior to arrest were not secondary to coronary artery disease or ventricular arrhythmias.

Well, technically I agree with him. I think the patient was ischemic but not due to coronary disease. I think that's the most likely

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answer. And her chest pain was because of the hypertension and underlying heart disease. And I agree she didn't have an acute MI either, so in principle we're not very far apart on Opinion 5.

Opinion 6, the cardiac arrest was not due to malignant hypertension. I agree with that. No one ever said she had malignant hypertension. It was never suggested. I never said she had malignant hypertension.

Opinion 6, which is actually Opinion 7, the medical care provided to Ms. Boyer was reasonable, consistent with accepted medical standards. I'm not offering a standard of care opinion.

And then his final opinion, the initial care she received from jail personnel following her cardiac arrest was timely -- yeah. When she coded, they did the best they could. I'm not -- and I'm not giving standard of care, but I agree that at least the code -- I have -- it's a standard of care opinion. I haven't seen anyone -- I don't recall anyone raising a criticism of the post-arrest, of the arrest management, you know, but I'm not giving any opinion about that. So I have no opinion on

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standard of care. He does, but I'm not offering any.

And he didn't -- again, I just want to make this clear. The main thrust of my opinion is giving times by which if she had reached the hospital the arrest would either have been avoided, or if not avoided, would have been resuscitated without brain damage. And from my reading of every defense expert who's seen my report, I presume, no one has disagreed with that including Dr. Wolff. So --

Q And in --

A -- to that degree, I agree with him.

Q And picking up on what you said in reference to his -- what he labels as Opinion 7 on Page 8 of his report. You made the observation in your report on Page 3, "the correctional staff responded aggressively and appropriately once Ms. Boyer suffered her cardiac arrest."

Do you recall that observation in your report?

A Although -- yeah, I'm supportive of them, but I'm still not going to be offering standard of care.

Q I understand. But you made the observation in your report, correct?

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A Yes.

MS. MAKAR: Objection. Form.

BY MR. JONES:

Q And do you stand by that observation in your report?

MS. MAKAR: Objection. Form.

A Yes. Of course I do.

BY MR. JONES:

Q Were there any -- were there any pieces of literature in your field or any other sources from your field that you relied on in forming or reaching your opinions?

A No.

Q I'm sorry. I didn't hear your answer.

A No.

Q And I assume the list of records that you provided on Page 1 and 2 of your report and that you reviewed, is that a complete list of all the records you reviewed in forming your opinions?

A Yes. Obviously they don't include the defense reports, which came later, but yes.

Q Understood. And were there any records that you asked for but that you were not provided?

A No.

Q You've provided us with the invoices that you gave

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to the Loevy firm for your work in this case, correct?
A Yes.
Q And were there any other written communications between you and Ms. Makar or anybody else at the Loevy firm relating to your compensation for your work in this matter?
A No.
Q And were there any --
A No.
Q Were there any written communications coming from Ms. Makar or anyone else at the Loevy firm to you that identified specific facts or data that you've relied on in forming your opinions?
A No. No. Nothing.
Q And were there any written communications from Ms. Makar or anyone else at her firm to you identifying assumptions that you relied on in forming your opinions?
A No. No. Absolutely not.
Q And the invoices that you've provided Mr. Knott, marked them as Exhibit 118, the last invoice is dated January 22nd, 2025. Do you recall that?
A That's the final invoice.
Q So as of last Wednesday, I believe that is, do

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those invoices account for all of the hours you've spent in connection with your work on this matter up through January 22nd of 2025?
THE STENOGRAPHER: Yes?
A I said "yes."
BY MR. JONES:
Q I didn't -- thank you.
And if I can just ask you about the last one from last Wednesday, January 22nd, the narrative on the invoice reads that you were billing for upcoming review of defense reports, preparation for your deposition, and the anticipated pre-deposition discussion with counsel.
A Yes.
Q So am I correct in understanding this invoice was sort of anticipatory of that work?
A Yes. I knew there'd be an hour discussion, that's typical. We were about an hour. I was given the understanding there'd be a handful of reports. So that's factored in, and my final prep, so yes.
Q Okay. And so does that invoice essentially account for the time you spent in preparing for the deposition?
A Correct.

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Q So in truth, these invoices account for all of the time you spent on this file up until the moment we began this deposition this morning; is that correct?
A Yes, that is correct.
Q And is $550 an hour -- well, scratch that.
A It went up to 600 an hour last year.
Q Yeah, I just noticed that.
A 2023 it went up to 600 an hour.
Q Okay. So 600 an hour, is that your standard rate for your work as an expert witness?
A For review. For deposition it's $700 an hour because that cuts into my daytime, which I can review at night. And then for trial, if it's out of town, I charge $6,000 for the day plus reasonable expenses. I don't charge for travel time. Just the day of being gone.
Q And previously was the standard rate for review and report writing 550, was that your standard rate?
A No. Then it was 550 for review, 600 for testimony, and 5,000 for day at trial.
Q I'm not asking you very good questions. Let me try with a different question.
The rates that you've charged the

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Loevy firm for your work in this matter, have those been your standard billing rates?
A Well, since I've made the change, yes. It's not special for them. Those are my rates.
Q Were there any materials you reviewed to prepare for the deposition, other than your report, the reports by the other experts that you've been provided or records that are identified on pages 1 and 2 of your report?
A I'm sorry. When did you ask? I missed that, the first part. I couldn't hear it.
Q Were there any records you reviewed to prepare for your deposition, other than your own report, the reports of the other experts that Ms. Makar provided you?
A No. I relooked at the Gundersen records.
Q So anything other than your report, the Gundersen records and the other expert reports that you were provided?
A Well, the defense reports, of course, I spent a fair amount of time with those, going over their dissertations. So those were the major things was my report, defense reports, and the Gundersen file.
Q Was there anything else you reviewed to prepare

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for your deposition?
A I looked at some of the jail records again, although I mean, not extensively, but I did spend time looking at the narrative reports of the jail.
Q Anything else?
A No, not that I can think of.
Q You're licensed in New York, correct?
A Yes.
Q Have you ever been licensed in a state other than New York?
A No.
Q Have you ever been subject to any sort of discipline under your New York license or your board certification?
A I've had no discipline outside of marriage. A little levity into today's proceedings. I'm sorry.
Q That's good. That's good.
And your CV, it includes all of your publications, correct?
A Yes.
Q I'm sorry. I didn't hear an answer.
A I said "yes."
MR. JONES: Okay. Thank you, Doctor.
THE WITNESS: Certainly, sir.

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EXAMINATION
BY MR. CASSERLY:
Q Hi, Doctor. I think I'm only going to be going about five minutes, so if you need a break, we can take one, otherwise I can just charge ahead.
A I think we should just charge ahead.
Q Great. I hear no objection. So I'll introduce myself. My name's John Casserly. I am an attorney for some defendants in this matter. They are USA Medical and Psychological Staffing, S.C., and four doctors, Drs. Harmston, Bresnahan, Johnson and Schamber.
And I assure you, I was listening when you told Mr. Knott that your opinions are in your report and you're not intending to give any other opinions, and because of that, I will shorten these up. But I do need to confirm, because there are some allegations in this case about my clients that are not explicitly medical, but I need to make sure you're not going to have an opinion on them.
So my first question is, you have not reviewed the deposition transcripts of any of the corporate officers or shareholders of the -- of USA Medical and ACH. Those would be

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Dr. Johnson, and CEO Jessica Young, and CFO Jaime Lynch, right?
A Correct.
Q And is it fair to say that you don't have an opinion about the corporate structure or the corporate financial status of USA Medical or Advanced Correctional Healthcare; is that right?
A That is correct.
Q Okay. You don't have any criticisms that those corporations are under -- underinsured or undercapitalized; is that right?
A No, I have no opinions about anything to do with the corporate structure or finance or anything like that. I will not talk about them for a millisecond.
MR. CASSERLY: All right. You have -- you have exhausted my questions. I have no others.
THE WITNESS: Okay. Mr. Knott, do you have any further questions, or did you --
MR. KNOTT: Yeah, I just need to follow up. Thank you, Doctor.
EXAMINATION
BY MR. KNOTT:
Q You said that you had reviewed the report of

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Pearson. Ms. Pearson is a nurse. I assume you have no commentary or debate with Ms. Pearson that you --
A I have no opinion about her standard of care opinions.
MS. MAKAR: I --
BY MR. KNOTT:
Q Yeah. And the same with respect to Dr. Young, do you have any -- did that alter your opinions or do you wish to add to your opinions in this case because of your review of Dr. Young's report?
MS. MAKAR: Sorry. Go ahead. Finish.
MR. KNOTT: I did.
A I think --
MS. MAKAR: Oh. I would just object to any questioning outside of the scope of John or Andrew's questioning, as you've passed the witness, and move to strike any question in response, outside the scope of that questioning under Rule 30.
A Anyway, I have no comment on their opinions. They did not in any way address my causation opinion, so we have no overlap. I'm not agreeing or disagreeing with anything they say. We just don't have any overlap.

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BY MR. KNOTT:
Q Okay. Doctor, is it your opinion that Ms. Boyer's experience of chest pain was due to ischemia, or can you not know?
A I think with medical certainty she was experiencing some ischemia, because you have underlying heart disease, you had her having chest pain and shortness of breath going on to a cardiac arrest and having ischemic abnormalities on her first EKG after the arrest. So I would say with a reasonable medical certainty she was experiencing some form of ischemia right before her arrest.
Q And are you -- the question is a little different.
Are you testifying that her experience of chest pain during the day or evening was caused by heart ischemia?
A I said it would likely be ischemia. I've said that.
Q Okay. I understand you to say there was likely ischemia, but the question is whether at that particular time you thought -- you think that the pain she experienced was resulting from ischemia, or can you not know with that specificity?
MS. MAKAR: Objection.
A I'm saying I think her chest pain was, within

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reasonable medical certainty, more likely than not to be ischemic pain. Am I not understanding what you're asking me? Am I answering you? I really don't want to be rude. I thought that was my answer. I think with reasonable certainty she was feeling chest pain from coronary -- from cardiac ischemia.
BY MR. KNOTT:
Q Your response ended with before her --
A Okay. Then take that back. That's fine. Her chest pain was ischemia pain with reasonable certainty.
MR. KNOTT: Okay. Okay. Those are the questions I have. Thank you.
THE WITNESS: Okay.
MS. MAKAR: I don't have any questions. Thank you, Doctor.
THE WITNESS: You're welcome. I will send you an invoice for the three hours of this deposition which you can forward to the defense, Maria?
MS. MAKAR: Yes.
THE WITNESS: And a W9 as well. Okay.
MS. MAKAR: Yes.
THE WITNESS: Are you in read or waive

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kind of thing? Do you do that when you have depositions in your state? Some states I have to read or waive.
MS. MAKAR: Yes, I think you're about to be asked that.
THE WITNESS: Okay. Then I'll read. Thank you. You all take care.
(Deposition concluded at 1:05 p.m.)
(Deposition Exhibit Nos. 117 through 122 electronically marked for identification.)
(Original exhibits attached to Original transcript; copies of exhibits are attached.)

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STATE OF WISCONSIN)
) SS:
MILWAUKEE COUNTY)

I, Rosanne E. Pezze, RPR/CSR/CRR and Notary Public in and for the State of Wisconsin, do hereby certify that the deposition of BRUCE CHARASH, M.D. was recorded remotely by me and reduced to writing under my personal direction.
I further certify that said deposition was taken remotely from New York City, New York, on the 28th day of January, 2025, commencing at 10:04 a.m.
I further certify that I am not a relative or employee or attorney or counsel of any of the parties, or a relative or employee of such attorney or counsel, or financially interested directly or indirectly in this action.
In witness whereof, I have hereunto set my hand and affixed my seal of office on this 3rd day of February, 2025.

_____
ROSANNE E. PEZZE, RPR/CSR/CRR
Notary Public
My commission expires January 10, 2026

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STATE OF WISCONSIN)
) SS:
MILWAUKEE COUNTY)

I, BRUCE CHARASH, M.D., do hereby certify I have read the foregoing transcript of proceedings taken January 28th, 2025, remotely from New York City, New York, and the same is true and correct except for the list of corrections noted on the annexed page.

Dated at _____
this _____ day of _____, 2025.

_____
BRUCE CHARASH, M.D.

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